



National innovation system of Ukraine: state initiatives and institutional limitations

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The purpose of the article is analysis of features of the national innovative system of Ukraine and elaboration of recommendations for the state innovation policy efficiency increase.

Such groups of works were considered as start points of research.

Firstly, monographs and abstracts within the framework of conception of the national innovative systems, summarizing worldly wisdom of national strategies of innovative development.

Secondly, the papers, devoted to the innovative process control in the post-soviet countries. Here, in particular, dependence of the efficiency of the innovative system on quality of functioning of its parts, a member of which education is, has been shown. Among the authors we'll call V.Aleksandrova, Y.Bagal, I.Boyko, V.Geyets, S.Glazev, Y.Gromiko, I.Makarov, B.Saltikov, Y.Pahomov, Y.Yakovets.

Thirdly, methodological works, devoted to the processes of development of institutional environments, transplantations and transformations of institutions, mutual influencing of institution and institutional environment. Among the authors of this group we will call A.Auzana, A.Gritsenko, V.Dementyeva, G.Kleyner, V.Polterovich.

Fourthly, statistical, analytical, normative papers and interviews, containing primary information about the level and prospects of innovative processes in Ukraine.

The principal results of the research are as follows.

Modern Ukraine is now in a situation of breaking of innovative contours and non-using of resource potentials. It limits its competitiveness and reduces the ability to offer productive combination of institutions and technologies and to contribute to the evolution of global economy. That's why from the positions of global expedience unproductive now domestic contours must be blasted, and resources must be disengaged and poured in the contours of much productive countries.

We can observe the activity of forces of global expedience in the changing stream of necessities of integration, on which Ukraine not always is able to find a right answer.

Global factor puts powerful pressure on forming of inner frames of development, supporting rise of raw materials and productions with low technology, growing their part in the Ukrainian economy, and in this way, setting in motion resource specialization of country.

The necessities of global integration and innovative development for Ukraine are as follows: *either* drift on will of forces of global expedience, which will result in a volume, that a country will be alienated from own resources and free choice of own trajectory of movement, *or* forming of a pioneer model of the national innovative system and transition to a qualitative new platform of institutions and technologies.

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Ukraine is distinguished by next terms for forming of the national innovative system (NIS).

Firstly, the high concentration of qualitative key resources for innovative activity – knowledge and skilled, - which has been produced by the mature systems of education and science, formed in a soviet period. The potential of resources can be capitalized in the conditions of structural environment of the mature innovative system.

Secondly, violations of resource-food streams between scientific, economic and educational systems in an innovative process, which has been outpoured in the non balances of their functioning, non orientation of development and destruction of capacity for reproduction.

Thirdly, the formed non-optimum hierarchy of investment attractiveness of spheres of economic activity on the criterion of correlation of the expected expenses (taking into account the risks) and expected income in which the position of innovative activity substantially yields to positions of traditional types of activity (in particular, raw material branches, real estate and building of habitation, trade, tourism, spheres of service).

In such situation the key importance for the development of country has got the state pro-innovative initiatives directed on the recreation of integrity of the NIS contours and counteraction to destructive pressure of global factor on development of national economy. However they have no desirable efficiency in Ukraine.

What is a limitation?

The analysis of limitations of state pro-innovative initiatives in Ukraine

(on the example of the initiatives is the identification and realization of national innovative priorities)

One of the major initiatives is the identification and realization of national innovative priorities. The prospective of the national economy competitiveness have been conditioned by the efficiency of the institution of priority directions of innovative activity which is responsible for both overcoming of the economy structure inertia and opportune moving of present resources from senescent into nascent branches. As world practice shows, the institute of priority directions of innovative activity quite often turns out not to be able to execute effectively its functions – i.e. turns out to be dysfunctional.

Dysfunction of the institution results in both the risk of the missed internal sources of competitiveness growth and forced peripheral position of the country with all the inevitable consequences.

Dysfunction of a such complex institution as the institution of priority directions of innovative activity, can be initially considered as a result of ineffectiveness of norms underlie it.

We are selecting the following two key standards in the institution of priority directions of innovative activity structure :

- the standard of determination of priorities;
- the standard of priority directions resource provision.

We will consider the state of the domestic institution of realization of innovative activity priority directions, following the outline below:

1) efficiency of choice of priority directions, analyzing the list allocated in the proper law;

2) efficiency of institution of priority directions realization using the example of the existing in practice mode of access to the resource of organizations realizing one of priorities (production of space of system engineering);

3) ways of the institution functioning efficiency increase.

Efficiency of choice of priority directions of innovative activity in Ukraine

Analysis of the priority directions of innovative activity, allocated in Law of Ukraine from January, 16, 2003 [1] was repeatedly conducted and presented in scientific literature. Therefore we will only generalize its results.

Among the principal problematic items of the innovative activity priority choice the researchers name the following.

1. *Groundlessly wide circle of priority directions and their superfluously generalized formulation.* As a result the status of priority direction makes no sense.

The monograph «Ukraine in economics knowledge dimension» of Institute of economics and forecasting of NAS of Ukraine draws a conclusion that “the stated in the law of Ukraine “About priority directions of innovative activity in Ukraine” list of 8 strategic and about 60 priority directions is impossible to put into practice in modern conditions in Ukraine. Only the insignificant part of State programs is able to provoke origin of economically efficient radical innovation” [2].

From the position of a society’s interests determination of such a wide circle of priority directions of innovative activity is without basis in fact because “experts are generally agreed that creation and implementation of just one or two drastic innovations is quite enough for economy growth, providing they are popularized in a grass root level” [2].

Thus, both the list excessiveness and vagueness of innovative activity priority directions result in a decrease of breakthrough in innovative economy development.

2. *Discrepancy of realized on practice principle of choice of innovative activity priority directions to purpose of choice.*

As is generally known, the primary resource provision (through a state order and state programs) of the rise of those spheres of activity development of which, on the one hand, is critically important for the perspective competitiveness of national economy, and on the other hand, can not be well-to-do due to the resource of private sector is the purpose of choice of priority directions of innovative activity. Such spheres of activity, as a rule, belong to the innovative economy and, unlike traditional, are alienated from the resource streams of private sector by virtue of immaturity of the proper institutes. However, the law of Ukraine “About priority directions of innovative activity in Ukraine” sets the standards of distributing of direct state support mainly for benefit of traditional economy productions.

Thus, the existing standard of choice of innovative activity priority directions sets preservation of non optimal structure of economy: firstly, through direct state support of traditional sectors due to the resource intended for innovative part, and, secondly, due to advancement of non optimal benchmarks for the private sector investments.

*Efficiency of norm of realization of innovative activity priority directions
(on the example of space industry)*

It was mentioned above that selected in the proper law priority directions of innovative activity can not be acknowledged like that, as they present the traditional constituent of economy and do not carry potential of national economy competitiveness growth in a prospect. Therefore, efficiency of norm of priority directions realization related to most legislatively fastened priorities is not of interest within the framework of the given article. We will limit the object of further research to the sphere of the space system engineering production. Its descriptors really correspond to the specific of the institute of innovative activity priority directions.

The reasons for such a choice are as follows.

Firstly, the given sphere of activity is one of the formal fastened priorities - the sphere of the space system engineering production is determined as medium-term priority direction

according to article 8 item 2 of the law of Ukraine «About priority directions of innovative activity in Ukraine» [1].

Secondly, the sphere of the space system engineering production has the signs of growth of national economy competitiveness. Besides it faces the problems of funds attraction from the private sector. Consequently, the special access mode to the resources is the necessary condition of its existence and development.

Thirdly, the choice of activity direction, which would be both developed in Ukraine and perspective in terms of global market of sale expansion, has practically no alternative. «Production of the space system engineering is the only leading branch where our state possesses competitive advantages. The other branches which may provide an effective integration of Ukraine to the international division of efforts in technological chains of the fifth technological mode are either undeveloped or have been degrading since the first half of 1990th» [3] - mentions T. Vakhnenko

In worldly practice the development of perspective branches requiring enormous investments, refers to the state functioning. If a country had comparative advantages in certain perspective branch, its development becomes of national priorities and the proper law is passed (the proper formal standard is entered in the institutional system). Its function is in overcoming of the national economy withstanding structure of resource streams inertia and organization of a new resource stream for development of priority branches.

Formal standards about priority directions of innovative activity are the typical component of the national institutional systems. However their violation which takes place in world practice also is common for Ukraine.

There is also the continuing disregard of standards concerning the resource providing of the Ukrainian space branch productions. According to the data from the aerospace portal of Ukraine, «only 10 million US dollars are allocated from the state budget to support the space program which is five times less than that is foreseen by the Law of Ukraine about the space program» [4]. The conception of the national space program for 2007-2011 states, that «financing of the space program (in average 90 million UAH annually) has been conducted by the residual principle: on-budget expenditures have not corresponded to 360 million of UAH approved by the law on the National space program» [5].

Thus, despite the existing in the institutional environment formal norm, the access of organizations within space industry to the resources of growth within the framework of the proper programs is not assured at all. Consequently the status of «priority direction» actually does not make any sense and the proper institute is dysfunctioning.

What are the reasons of violation of formal norm which both postulates priority of an industry development and foresees the certain limit of budgetary facilities?

One of the key reasons, in our opinion, is dominant position of an informal norm within the institutional environment which secures to an industry a secondary place in the hierarchy of the society necessities. Its domination is considered to be a foundation for the resource of growth of the space industry reallocation and obviously, subjectively perceived as more meaningful.

The domination of informal norm is based on the following circumstances:

- 1) the informal belief of nation in peripheral position within the global society;
- 2) unawareness of the fact that the space system engineering production potential is a moving force of innovative development of the country;
- 3) negative demand for the norm of the priority providing with the resources of innovative constituent of economy from the agents of traditional economy.

We will consider these circumstances in details.

*1. Informal belief in peripheral position in global society
as the factor of dysfunction of standard of priorities of innovative activity*

In the dynamics of relative competitiveness of societies informal setting of a society members play a more significant role. «In the present economic situation, - writes the academician of National Academy of Science of Ukraine Y. Pahomov_- factors of civilization become dominant in the competition, i.e. rather «spiritual» then «material» factors. In the article «Ukraine in the context of new prospects of forces placement in a world arena» he states the decay of the spirits and closely related to that regressive changes in a domestic society: «decay of the spirit, languor of creative energy, demographic catastrophe and mass escape from the country of energetic and talented youth - a «country is dying out »»[6].

Additionally to the problem of dysfunction of the norm of innovative activity national priorities, *descriptors of informal constituent of the institutional environment* of home society are seen as follows:

- temporary absence of the national integrity, that loosens the idea of national priorities;
- temporary alienation from a future, that generates demand for the informal norm of redistribution of facilities from the projects directed on a prospect to the decision of vital problems of current period;
- temporary depression creative beginning of nation, that lowers probability of provision with the resource streams of scale innovative projects.

Thus, in a domestic institutional environment we are currently observing the conflict of two normative subsystems:

- formal standards supposing mobilization of resources *today* for the sake of high-quality changes;
- informal standards of «life by one day», reflecting disintegration of a society, escape from activity and perception of future as reality.

An institutional conflict is solved for the benefit of an informal component: in contradiction to the formally declared orientations towards the innovative model of development on the basis of achievements of domestic science, the model of “catching up” development with a bias to modernization of traditional productions on the basis of imitations of western technologies is being actually applied.

The risks of further development of situation in the existing way are substantial, if to take into account the following three circumstances.

Firstly, *possibility of success of the “catching up” development strategy is quite controversial.*

Such strategy is supposed to be inefficient under conditions new technologies appearance. One of the last tendencies is appearance of an “outgoing” model of development, which initially presupposes production of own technologies on the basis of own scientific researches and own highly skilled professionals. It is the outgoing model of development that gives the real chance to the peripheral economies for global leadership on a new turn of the technological cycle. Thus, attempts to walk up new to technological level are disappearing, stimulating modernization of own technological structure through borrowing technologies from outside.

Secondly, *expedience of borrowing fragments of western technological structures for development of technological structure of post soviet economy is controversial.*

The technological structures of national economies are system organizations, and – have the internal logic of development and built-in gears for suppression of conflicting changes. The technological structure inherited from the soviet economy, which is to some extent determines functioning of economy of modern Ukraine, was formed in the process junction of production, educational and scientific systems and resulted in the system of productions and industry standards, educational and research organizations and programs.

Under fragmentary borrowing of western technological platforms, implants are doomed repeatedly conflict with a domestic technological structure and as a result their adaptation and utilization will be accompanied by high costs and, in the end, will become inexpedient. «As soon as separate production technology comes in contradiction with technological organization of all industrial-production complex, it will be doomed to elimination. Its exploitation turns out to be unprofitable» [7].

A strategy of production efficiency increase on the basis of *systematic implantation* of western technologies is also possible. It aims to change the dominant of post soviet technological structure for pro-western one. The strategy implementation expenses include two components:

firstly, charges on borrowing and adaptation of technological platforms;

secondly, inevitable irreparable losses from present technological structure potential degradation under constraint of implanted pro-western technologies. «After the of short attempts of contact with the western production systems they will start disappearing besides an displacement and import of western industrial-production technologies will inevitably begin» [7].

Ukraine is facing a risk of turn out into one of many countries which started imitating institutional-technological structures of leading countries. Thus, there is the risk of «mobilization of nation» on «obtaining» of the status of peripheral economy within the frameworks of strategies of economy increase efficiency on the basis of western technologies borrowing.

Thirdly, the orientation of economy to *attachment to the external source of rise carries in itself the danger of the country movement on dependent position in the global system*.

Establishing of a new world order will lead to unequal exchange between the countries of technological kernel and periphery which is beyond the economic relations. «Prevailing over periphery, - writes S.Glazev, - a kernel "draws" the most high-quality resources out of a country.... Deprived of the basic internal sources of a country development periphery loses its opportunity to conduct an independent economic policy and management development, growing into economic space for mastering of an international capital» [8].

Thus, the exposure and stimulation of internal sources of rise, bearing in itself potential of system innovations, are becoming the only possibility of high-quality movement of economy towards a new level of development. In order to apply these possibilities (under conditions of limitations of domestic institutional environment) it is obviously not enough to accept of new formal standards, since the probability of they dysfunction is high.

The principle way of the institutional conflict solution is seen in improving of informal constituent of institutional environment.

It is expedient to lay the method of *social genetics*, which supposes creation of terms for speed-up evolution of the desired normative systems, in the basis of the policy directed on the change of balance of conservative and innovative component of informal normative environment. On practice it's realized by means of creation of so called 'incubators'. The various organizational forms of «points of growth» of innovative economy can be used as «incubators» for evolution of the desired recession norms.

In worldly experience such incubators are presented by innovative centers, techno parks and techno policies, by the special economic areas focused on development of a new institutional-technological model. Among the like we can mention successful mature competitions of innovative projects which also are the isolated points of rise of innovative constituent of economy.

In such institutions innovative component of institutional environment is a priori dominant and «common» and conservative component is recessive and negatively perceived. Speed-up development of innovative constituent of institutional environment is achieved due

to intensive development of «point of rise» - innovative organization (rise and acceleration of differential-integral processes) in the artificially created convenient environment.

The key constituents of convenient environment for growing of a new system of standards are:

- protection from overwhelming influence of dominant standards of external environment. It is achieved by the conditional isolation, excluding of «incubator» of recessive standards outside of influencing a country institutional system. Thus, incubators, are established in the form of the special economic region, separate administrative-and-territory unit, separate institutional subsystem

- hasty growth of organizations due to the special regime of access to the resource stream (as a rule, from budgetary funds) and special regime of exportation of product to the world market (for example, by means of state contracts or the centralized support in the export);

- management of organization-incubator development. In particular, stimulation of differential-integral processes of organization-incubator is the indispensable condition for speed-up evolution of the desired standards. According to the worldly wisdom, the simple «pumping by the resources» of perspective projects results in deceleration of their development followed by degradation.

Displacement of balance of innovative and traditional constituent of institutional environment takes place naturally as far as rise of the innovative oriented organizations and displacement of balance between innovation and tradition in an economy are also take place. This process is mostly autocatalytic, that is requires less interference from outside in course of development.

2. Sensual vagueness of the role of space branch in the decision of socio-economic problems of Ukraine as the factor of violation of standard of priority development

Firmness of informal standard of perception of space branch as «non priority» has been conditioned also upon unclear realizing of its potential as motive force of innovative development of country, by availability of communication between the vector of development of branch and solving of concrete strategic tasks standing before the state. As a result domestic space branch becomes a hostage of the *sensual vagueness*, That's why its connecting to the resource stream of society cannot be guaranteed.

In such terms probably in the domestic institutional environment the formal standard of priority development of space branch is repressed by much more stable informal standard of the remaining providing by the rise's resource – in the number of second-rate on meaningfulness spheres.

The sensual vagueness of space branch lies in the basis of its resource problems which have been relatively full described in the special literature. The resource problems of space branch by researchers traditionally will be classified within the meaning of inadequate resource, such as:

- financial,
- skilled (including problem of «loss of minds» because of low wage),
- structural (absence of a number of key productions),
- material and technical (wear-and-tear of general funds) and etc.

Significant, that the divergence between the formal standard of priority development of branch and informal standard of estrangement of government from the threat of degradation of branch because of chronic resource hunger we have got in subjective perception of «low priority of space branch», what the leaders of branch enterprises in their papers are spoken about.

Fragmentary presentation of problem is outpoured in the attempts of the offered symptomatic «treatment»:

- for solving of financial problems it is suggested to «transfer the collateral items of space activity in the category of «budget protected», selecting them by a «new paragraph», giving the state guarantees to the investors and creditors» [4];
- for solving of cadre staff problems – to «increase, at least, in the two times wages (for the settlement of skilled questions)» [4];
- for «raising of priority» of the branch – to «realize the development of “long-termed” strategy of space activity of Ukraine, being based «on the strategic choice - European and Euro Atlantic integration», to strengthen foreign-policy support of branch and to address the responsibility for it to one of the ministers » [4].

The peculiarity of recommendations indicates on aspiration of the branch's agents for actual definiteness of the status, in particular, in such questions:

- firstly, in the formal fastened status of priority direction of innovative activity ,
- secondly, in a right to the resource stream in accordance with an existent formal standard,
- thirdly, in relation to the function of branch in long-termed development of society.

The vagueness of prospects of branch is outpoured in the vagueness of reference points of its structural changes and chronic structural disbalances, in particular:

- break of functional production's chain and chronically unsolved problem of integrity of branch , which is possible to solve by establishment of absent key organizations. For instance, an important, but absent in a country element is the development of start complexes and powerful engines .
- the low carrying capacity of branch, intensified together with increasing of capacity of global market and the chronically unsolved problem of increase of carrying capacity («Ukraine produces satellites, but in an extremely small tempo - one by one in few years»). Increasing of carrying capacity of branch is possible by additional capital investments.

So, dysfunction of formal standard of priority development of space branch is based on the sensual vagueness of its role in the solving of problems of society.

The principle way to the removal of institutional dysfunction is a clear definition of relation between the tasks of priority development of branch and the strategic reference points of socio-economic development of country.

3. Negative demand as the factor of dysfunction of standard of priority direction of innovative activity

In obedience to the theory of institutional transplantations, negative demand has been considered as a substantial factor of dysfunction of formal standard , which takes place by the organization of groups of pressure for purposeful its sabotage.

Possibility of redistribution of standard's supporting resource stream gives reasons for producing of negative demand on the standard of fixing of status of priority direction of innovative activity for space branch. *The alternative consumers of resource stream* are the potential bearers of negative demand. A stream can be redistributed in two ways:

- 1) for modernization of traditional productions – in a counterbalance to setting by a formal standard productions of innovative economy.

Possibility of such redistribution of resource stream lies in the basis of dysfunction of the first constituent of institution of priority directions of innovative activity – dysfunctions of standard of choice of priorities.

- 2) for satisfaction of current necessities of society – in a counterbalance to its strategic necessities.

Significant in this aspect is the opinion of vice director of the National space agency E.Kuznetsov – “non-acceptance of priority status of space branch prevails in society because it brings million expenses and at the same time the essential part of population is living under the line of poverty” [9]. Possibility of reorientation of resource stream on solving of current problems lies in the basis of dysfunction of the second constituent of the given institution – standard of the special regime of the resource providing of priorities.

Under the conditions of non organized institutional environment, dominating of informal standards and on them based personalized agreements there are however possibilities of compensation of negative demand on formal standards and providing in such way terms for their functioning. «Even minority, being derogatory, quite often is able to prevent to reform or in principle to misrepresent its ideas during practical realization.. Effective strategy of reforms must foresee the organization of dialog between the representatives of differential social groups for making decisions as far as possible near to the consensus. The state as an initiator of reforms can use the levers of social and industrial policy for compensation of harm from reforms by that, who turns out in a loss» [10], - V.M.Polterovich writes, - and further sets an example of successful experience of renewal of balance of interests of social groups and weakening of resistance to institutional transplantations in Hungary, Poland and China.

So, the search for consensus between interests of social groups, balance of which has been violated because of introduction of the given standard forms the principle way of reducing of negative demand on a formal standard.

For reducing of negative demand on standards responsible for distributing of budgetary resource for increasing of innovative economy, the changes of institutional environment, which lead to dependence of interests of potential bearers of negative demand on functioning of denied standard, will turn out most effective.

Such dependence can be attained in practice, in particular, by stimulating of development of channels responsible for flowing of resources from productions and branches of traditional economy in perspective productions and branches of innovative economy. To them belong the numerous kinds of venture investments, including corporate venture investments.

In this context a tendency of transfer of central point of interests of the integrated business-groups from raw material productions in the hi-tech spheres of activity deserves the special attention, exposed during the research of the *IBG* evolution, conducted under the direction by the professor A.Dinkin. He says: «The oil-extracting and metallurgical departments has been transformed into milk cows which generate money streams for other directions of business» [11], Researchers notice increasing differentiation of directions of the *IBG* activity: the powerful streams of investments will be directed on establishment and development of hi-tech productions. State support of such tendency is the effective way to reducing of negative demand on the standards of priority of productions of innovative economy from the side of representatives of traditional branches.

From the summarizing of the results of research of problem of dysfunction of institution of priority directions of innovative activity in Ukraine we'll draw such conclusions.

1. The probability of dysfunction of formal standards is derivative from the level of organization of institutional environment of society. Disorganization of institutional environment means the low level of sensual definiteness and co-ordination of activity of the agents of system, dominating of informal standards and personalized agreements compared to formal standards and non personalized agreements. The attempts of governments to instill in non organized environments new formal standards instead of dysfunctional have got back action, namely – they stimulate resistance to institutional innovations (so-called *inertia of environment*) and strengthening of informal standards and personalized agreements. Under such conditions the violation of formal standards changes into a self supporting informal standard.

2. Institutional environment in Ukraine is de-organized. It means:

- real absence of centralized kernel of the institutional system as a principal standard, uniting the members of society («national idea»). *This* is conditioned by the unfinished transformation of informal institutions, differentiation of values and absence of public consensus about the real goals and priorities of society. Formal the «idea» of the innovative model of development has been declared, however did not «capture the masses» and the masses continue to live «in the compartment of today», ignoring measures on resource's mobilization for development of points of raise of perspective competitiveness. So, the «innovative model of development» as the national idea is dysfunctional, because it does not fulfill the function of the consolidating force of society and really isn't the kernel of a new institutional system;

- ineradicable inner contradiction of normative base, as the result of conflict between the installed formal standards and latently present (and dominating) in an environment informal standards;

- dominating of tradition and suppression of innovation in the economic system, conditioned by the weakness of institution of flowing of resources from traditional with lowering efficiency in the perspective innovative spheres of activity;

- low level of self-conscious of society, conditioned by immaturity of institution of civil society (the so-called «social capital»), that assumes possibility of violation of all formal standards and especially directed on the improvement of prospects of society..

3. Dysfunction of complex institution is a result of dysfunction of its constituents. Ukraine has got dysfunctional both constituents of institution of priority directions of innovative activity: standard of choice of priorities and standard of the special regime of their resource providing.

Negative demand of the redistribution of resource stream for modernization of traditional productions – in a counterbalance to the points of rise of innovative economy lies in the basis of dysfunction of standard of choice of priorities.

Negative demand of redistribution of resource stream for satisfaction of current necessities of society – in a counterbalance to strategic interests lies in the basis of dysfunction of standard of the special regime of the resource providing of priorities.

To the factors which allow to realize interests of bearers of negative demand and establish terms for dysfunction of institution of priority directions of innovative activity in Ukraine belong:

- 1) non organization of institutional environment and functioning of «standard» of violation of formal standards;

- 2) dominating informal belief towards peripheral position in global society and by it conditioned latent waiver of mobilization of investment resources for transition to the innovative model of development.

4. The following measures on the reducing of probability of dysfunction have been offered:

- 1) limitation of attempts of unsystematic shock transplantations of «successful worldly wisdom» and introduction of formal standards instead of dysfunctional. For instance, a priori the attempt of introduction of standard in obedience to which in the list of priority directions of innovative activity a sublist of «primary directions» has been selected, will be considered as having no prospects. Expediently to develop the state institutional policy in the direction from the use of the simplified methods of transplantations to the use of technologies of «growing of institutions», using the achievements of social genetics;

- 2) management by correlation of forces of dominative and recessive informal standards. Measures for organization of institutional environment, bearing the reducing of vagueness and expenses of co-operation of agents, are effective and also the provocative measures oriented to increasing of motivation of agents for their participation in innovative processes;

3) precise definition of dependence of solving of strategic and current tasks of socio-economic development on speed-up development of priority directions of innovative activity. It will give the following possibilities:

- firstly, evidently to show the risks of the further resource providing of priorities on an aftertaste;
- secondly, to specify accordance of formal priorities to its status;
- thirdly, it will provoke rising of negative demand on standards, groundless fastening status of priorities for traditional branches and productions;

4) compensation of negative demand on the standard of the priority resource providing of row of productions through the search of ways of renewal of balance of interests of task forces. As one of ways to renewal of balance we name the accordance of acceptance of standards of priority directions of innovative activity with development of institutions reducing the expenses of flowing of resources from traditional in the priority spheres of activity.

The concept of a state policy of NIS in the conditions of institutional limitations

We have analyzed them other state pro-innovative initiatives in Ukraine, as well as the initiative of the identification and realization of national innovative priorities. In particular, the following initiatives:

- The use of the government programs having a special purpose for realization of major scientific, scientific - technical and innovative projects;
- Creation of techno parks and introduction of the special regime of innovative activity for entering in them companies;
- Organization of competitive selection of the most perspective innovative projects of private sector for support of their realization due to budgetary facilities;
- Stimulation of private venture investments in innovative projects.

The analysis exposed:

(1) serious violations in their functioning, which make to progress as far as development of initiative,

(2) of principle analogy of chart of their development.

The *general scheme of development of initiatives* is that.

On an initial stage the idea of pro-innovative initiative mightily flashes the high-level, passes the discussion and has been designed conceptually. In development of ideas of conception a national act has been passed, which already carries in itself the signs of disfunction – the unclear determinations of rules (above all things, related to the redistribution financial streams) and assumes wide interpretation of circle of transmitters of new rules. As far as the use in practice, a law becomes overgrown with conflicting non-act normative acts increasing an inner conflict, which it contains.. A conflict is settled by transition from the norms of civil society (principle of equality before a law) to the norms of traditional society (principle of «one's own - foreign») at distributing of the proper financial stream. At last, the initiative loses an ability to fulfill its function – that is a disfunktion.

All this compels to take into account the following *limitations* by the development of model of the national innovative system and strategy of innovative process control.

Firstly, the necessity to take urgent measures on forming of contours of innovative process. The points of development of the innovative system (innovative locus) one considers as means of advanced development of innovative components of institutional environment, withholding and capitalization of skilled and knowledge potential (and it means, reproduction of the highly developed scientific and educational systems), increasing of competitiveness of economy (and, reduction of risks of raw material specialization in the world market and fixing of structural deformations of production).

Secondly, necessity of purposeful change of balance of investment attractiveness of innovative and traditional component of economy, including due to development of institutions providing flowing of capital from the low technological in the highly technological spheres of activity.

Thirdly, probability of revaluation, adjustment, clarifications of strategic reference point of development, and therefore, another vision of structure and function of the innovative system as means of achievement of strategic purpose of society.

Fourthly, weakness of state will to pursue a purposeful strategic policy, feeding on the problem of inner conflict of normative base and high meaningfulness of subjective factor (individual interests) one in two in allocation of public resources.

A next *project task* to development of conception of the NIS management for Ukraine is therefore accepted.

Firstly, to construct *invariant of the NIS model*, which is oriented to maintenance of abstract strategic purpose of progress of institutional- technological structure of society and conditionally independent of variations of its concrete filling.

Secondly, to offer *strategy of the NIS forming*, aspiring to such actions, which provide its quickest introduction to the regime of self-development in which the possibilities of the braking influence of subjective factor are limited by inner logic of movement of the system.

Thirdly, to foresee frame *limitations* impedimental to deviations from the accepted model NIS and strengthening purposefulness of state pro-innovative initiatives.

As a function *of the NIS model* having a special purpose the expense's reduction of innovative processes are accepted, increasing of the part of innovative production in VVP and increasing of potential of the innovative system in behalf of society without depending on quality of the real strategic reference point and individual interests.

In the basis of model of the national innovative system for Ukraine two institutional systems are fixed: the function of the first consists of providing of continuous renovation of institutional-technological structure of economy on the basis of inner sources of development; the function of the second – in providing of continuous perfection of state policy as means of regulation of innovative processes in national interests. As a strategic purpose of state administration by the NIS development it is suggested to adopt the transfer of both institutional systems in the regime of the self supporting functioning and evolution.

Strategy of the NIS development is oriented to forming and bringing of the innovative systems in the regime of self development in which possibilities of the braking influencing of global and subjective factor are limited by inner logic of movement of the system. Strategies in the field of industry, agriculture, depressed regions, big and small firms, infrastructure of innovative activity, transaction of agents from an economy, science and education in an innovative process belong to the strategy.

Taking into account the importance of correction of institutional environment, at development of tactical motions it is suggested widely to use the methods of institutional experimentation, demonstration and provocative measures.

Frame limitations impedimental to deviations from the accepted model NIS and strengthening purposefulness of state pro-innovative initiatives contain two groups of measures.

Firstly, legislatively to ratify sufficient terms for the revision of the NIS model chosen as a reference point. As sufficient terms has been named: changing of strategic purpose of development of country; changing of quality of innovative potential of country; discovering of new knowledge about the nature of innovative processes and new practices of state administration.

Secondly, to establish an institution, generating effect of ratchet for counteraction to the spontaneous changes of the chosen model NIS and state policy on its realization. At establishment of institution as a basis it is suggested to take experience of introduction of centralized regulator policy in the field of enterprise, which had got good results in Ukraine.

Variants of development NIS of Ukraine in the future

The prospects of the national innovative system in Ukraine and the possibilities of movement to the innovative model of development depend on settlement of contradiction between pro-innovative and conservative institutional environment.

We have analysed three variants of development of NIS in Ukraine:

- (1) a scenario of inertia movement,
- (2) a regressive scenario,
- (3) a progressive scenario.

The most severe consequences contains *the scenario of inertia movement*, lengthening the stage of unsolved contradiction of the incompatible normative systems, double standards and normative disfunctions, weakness of the state and high transactional expenses, deviation of agents from participation in complicated processes and real priority development of spheres of low technologies and «short chain», forced dispersion of present resources and loss of possibilities of input in the reproduction regime of the accumulated potentials.

As for inertia movement even *a regressive scenario* (settlement of contradiction by acceptance of dominant of traditional component, by the formal waiver of a pioneer NIS and acceptance of branches of the middle technological modes as «priorities») has got the preferences, effluent from settlement of base institutional conflict. Among them – reduction of vagueness and general level of transactional expenses, raising of reliance of agents (including to power), the increasing possibility of the state for mobilization of resources and pursuing a non conflict policy (in consideration of reduction of risk of disfunction of initiatives). Among other positive consequences of settlement of institutional conflict are important:

- (1) probability of the fast including in public consciousness of strategic purpose as not contradicting informal to options of society and interests of dominating number of economic agents;
- (2) possibility of closing up of contour of the innovative system, allowing to unite and to provide the regime of reproduction of part of national investment, enterprise, innovative, knowledge, skilled resources together with sphere's modernization of existent productions and development of lying in their basis clusters of technologies;
- (3) revision and reducing to the effective minimum of list of priorities of innovative activity and of the government programs, directed on their realization.

Among the inevitable negative consequences of regressive scenario are as follows:

- (1) increasing of the production's part with the low added cost in VVP and forming of institutional structure attendant flowing of inner and attracted external resources in simple exchange processes and low efficacious productions;
- (2) deceasing of technologically complicated productions because of inability to conduct competitive activity in the conditions of non effective institutional environment and chronic resource deficit;
- (3) fixing of specialization of Ukraine on the production of low redistribution and leaving from the markets of hi-tech production;
- (4) reducing of competitiveness of economy, narrowing of resource of development, falling into the traps of non adequacy exchange, increasing of state debts and losing of identity in acceptance of strategic decisions;
- (5) arising of expenses on a large scale because of the lost opportunities from the loss (destructions and losses) of portion of unclaimed innovative, skilled, scientific and educational potential of country and, accordingly, worsening of start terms for innovative breach in a prospect.

A progressive and optimistic on its results scenario is opened out in the case of overcoming of inertia of non optimal trajectory of development *with transfer of economy to*

development on the basis of innovations and forming of the pioneer's innovative system, giving possibility of producing of basal innovations. For that purpose the choice as «priority branches» of the higher technological modes must be done, state strategy of their breach development, realization of which must be supported by the high-adaptive system of acceptance of state decisions, must be accepted, with initiative and supervisory participation of the organized public pro-innovative lobby. The main expected results are as follows:

- transformation of pattern of production;
- accelerated increasing of competitiveness of national economy;
- renewal and increase of production, scientific and educational potentials, organization of structural exchange by resources, knowledge and human capital with a global environment;
- reduction of risks of system crises and catastrophes, removal of the phenomena of depressed of regions and branches;
- re-establishment of institutional stimuli and terms for flowing of resources from simple exchange processes and low technological productions in complex processes and high technological productions;
- re-structure, renewal and development of innovative potential, forming of contours of self supporting system of development of scientific, educational and production sectors;
- establishment of big hi-tech globalized companies, generations of small innovative companies and venture investors.

The acquisition of identity of country in a global world is the major external effect of successful realization of innovative strategy, authentication of own values, weakening of dependence and finding of ability to resist to the implanted destructive values from outside, frontal rise of «tie-up» of society, lying in the basis of possibilities of co-operation and use of synergetic effects.

Conclusions

From the abovementioned it is evident that Embodiment of the state pro-innovatives constrain institutional limitations. The state pro-innovative initiatives in Ukraine turns out not to be able to execute effectively them functions. As for considered state pro-innovative initiatives a «cocktail» from two base types of disfunctions prevails in Ukraine:

- (1) atrophy of institution - initiative is estimated as ineffective and it becomes the motive of narrowing of its financial stream or displacement *of initiative generally*;
- (2) transformations in an antiinstitution – the initiative has been fastened in an institutional environment as an instrument for achievement of more qualitative purpose.

In the basis of disfunction of state pro-innovative initiatives negative demand on the anew introduced rules lies in Ukraine. Interest of bearers of negative demand consists in the redistribution of resource stream supporting the anew entered rule.

For all considered initiatives two methods of redistributions of resource stream are usual:

- (1) on modernization of traditional enterprises – in a counterbalance to the development of innovative economy;
- (2) on satisfaction of current necessities of country – in a counterbalance to national strategic interests.

Possibilities for realization of interests of bearers of negative demand on state pro-innovative initiatives give the following factors:

- (1) deep self-contradiction of institutional environment, which serves as a sufficient motive for including in practice of informal norm of violation of formal rules;
- (2) dominating in society informal tendency to the peripheral position of country in a global hierarchy;

(3) low and still going down level of reliance to power, growing doubts in loyalty of the chosen reference points and possibility of government to achieve them. All this forms the basis of latent resignation of agents from mobilization of resources for realization of state initiatives.

We came to conclusion, that key importance for NIS in Ukraine has got a conflict between the declarative and latent orientations of development of country having a special purpose. This conflict is a cause for of inconsistent and mass dysfunctions of state pro-innovative initiatives. It conduces to increase of transactional expenses in innovative activity, to exhaustion of innovative potential and lowers the chances of Ukraine on the innovative development .

Coming from such limitations, we developed conception of the state administration NIS for Ukraine. It includes such elements:

1. Invariant of the NIS model, which is oriented to maintenance of abstract strategic purpose of progress of institutional- technological structure of society and conditionally independent of variations of its concrete filling.

2. Strategy of the NIS forming, aspiring to such actions, which provide its quickest introduction to the regime of self-development in which the possibilities of the braking influence of subjective factor are limited by inner logic of movement of the system.

3. Frame limitations impedimental to deviations from the accepted model NIS and strengthening purposefulness of state pro-innovative initiatives.

We assume that the strategy of development of the innovative system , which has been offered by us , will be productive without depending on the concrete choice of orientation and scenario of development having a special purpose on a prospect. Operations on tuning of model consist of transfer of accent of priority development in the central (middle technological modes) or high (higher technological modes) block of model and strengthening of adequate stimulant steps.

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